

REMARKS

Claims 1-8, 10-20, and 22-45 are pending in the present Application. Claims 15 and 16 have been amended to provide proper antecedent basis. Support can be found in Claim 9 as originally filed.

No new matter has been introduced by these amendments or new claims. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-6, 8, 10-20, 22-35, 38, 40-42, and 44 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over United States Patent No. 4,603,153 to Sobajima, et al. (Sobajima) in view of United States Patent No. 5,853,060 to Chao, et al. (Chao). Applicants respectfully disagree with the Examiner's analysis and rejection. The Examiner has repeatedly stated that the composition taught by Sobajima and Chao are very similar to the claimed composition. Applicants earnestly disagree.

There are four factual inquiries that establish the background for determining obviousness: determining the scope and contents of the prior art, ascertaining the differences between the prior art and the claims at issue, determining the level of ordinary skill, and considering objective evidence indicating obviousness or non-obviousness.

Sobajima teaches a glass reinforced resin composition. Sobajima discloses in the Abstract that the composition comprises:

- (a) 30 to 98 parts by weight of a crystalline polypropylene polymer,
- (b) 2 to 30 parts by weight of glass fiber,
- (c) 0 to 35 parts by weight ethylene based rubber,
- (d) 0 to 30 parts by weight of an inorganic filler,
- (e) 0 to 10 parts by weight of a pigment.

In the Summary of the Invention Sobajima teaches that it is the combination of the crystalline polypropylene and a specific glass fiber that gives the material its improved high temperature stiffness, appearance, and warp properties – hence explaining why so many of the listed components are optional. Sobajima teaches that a portion of the polypropylene can be modified

with maleic anhydride. This is being equated with the polyolefin-graft-cyclic anhydride copolymer. Thus component (a) of Sobajima is being applied to teach two elements of the pending claims. To arrive at the composition of the pending claims some careful choosing of elements from Sobajima must take place. Firstly, a skilled artisan must choose not to include the ethylene based rubber, inorganic filler and pigment which are explicitly disclosed as desirable optional ingredients, complete with amounts, descriptions and discussion. Next, a skilled artisan must reach into an extensive laundry list of additional optional components (col. 8, lines 31-66) to find the poly(arylene ether) (as polyphenylene oxide) and the hydrogenated block copolymer for claim 1. In addition to these choices the skilled artisan must then choose the amounts of these materials to form a composition which is suitable for use in an underhood environment. As indicated by the Examiner Sobajima generally discloses interior and exterior automotive components in the Background and further discloses a fan shroud (col. 2, line 32) but gives no substantive guidance regarding the considerations required for the selection of amounts and types of components for an underhood composition. Common sense would indicate that the material must be chemically resistant because of the prevalence of grease, oil, and various fluids such as coolant, brake fluid, power steering fluid and the like. Here the inclusion of poly(arylene ether) is counterintuitive as it is known to have less than desirable chemical resistance. Polypropylene, particularly crystalline polypropylene is known to have good chemical resistance and the introduction of a material having significantly less chemical resistance for use in an underhood environment is not an obvious choice, particularly in substantial amounts such as those explicitly required by claims 38 and 42. While Sobajima does disclose the use of poly(arylene ether) it must be recognized that Sobajima is directed to materials for both exterior and interior car parts and hence the teaching with regard to poly(arylene ether), as ready by a skilled artisan, was more likely to be applied to applications other than underhood applications. Furthermore, Applicants point out that poly(arylene ether) and polyolefin form immiscible phases which must be “compatibilized” by the presence of a third polymer. The “compatibilization” prevents the delamination of the different phases. This provides another source of unpredictability in an underhood environment as the “compatibilizer(s)” must be able to resist degradation in the underhood environment in order to maintain the integrity of the underhood component. As shown in the examples the composition shows remarkable resistance to degradation – even after

being subjected to radiator coolant for 32 days.

Chao has primarily been cited for teaching different portions of an automotive interior. Chao does not disclose a particular composition as Chao is directed to a mechanical invention regarding a hood latch system for the hood of a automobile. Thus Chao give no clues to the selection of components and amounts for the composition for the underhood article.

Claim 7 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over United States Patent No. 4,603,153 to Sobajima, et al. (Sobajima) in view of United States Patent No. 5,853,060 to Chao, et al. (Chao) as evident by United States Patent No. 5,358,989 to Casarini, et al (Casarini) for the reasons adequately set forth from paragraph 7 of the office action of April 24, 2007. Applicants respectfully traverse this rejection in view of amended independent claim 1.

Casarini has been cited solely for teaching possible monomer units in the poly(arylene ether). Casarini gives no indication that a composition such as the one instantly claimed, could be successfully used in an underhood application.

Claims 39, 43, and 45 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over United States Patent No. 4,603,153 to Sobajima, et al. (Sobajima) in view of United States Patent No. 5,853,060 to Chao, et al. (Chao) further in view of United States Patent No. 6,060,549 to Li, et al (Li) for the reasons set forth from paragraph 8 of the office action of April 24, 2007. Applicants respectfully traverse this rejection.

Li has been cited for teaching the use of polystyrene in combination with poly(arylene ether) in a nanocomposite. Li does mention automotive bumpers as indicated by the Examiner but Li does not give guidance or motivation for using poly(arylene ether) in a composition for an underhood component. The combination of Sobajima, Chao and Li fail to render the pending claims obvious.

Claims 36-37 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over United States Patent No. 4,603,153 to Sobajima, et al. (Sobajima) in view of United States Patent No. 5,853,060 to Chao, et al. (Chao) for the reasons set forth from paragraph 9 of the office action of April 24, 2007. Applicants respectfully traverse this rejection.

The combination of Sobajima and Chao has been discussed above. The same logic regarding the combination of these references applies to claims 36 and 37 with even greater specificity because in claims 36 and 37 a radiator end cap is specifically claimed. It is easily

appreciated that the radiator and radiator end cap are especially subjected to harsh conditions in which chemical resistance is essential due to the prolonged period of exposure to coolant at elevated temperatures.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, or knowledge generally available in the art at the time of the invention, must provide some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The obviousness inquiry also requires consideration of common knowledge and common sense. *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1742-43 (2007); *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006) (“Our suggestion test is in actuality quite flexible and not only permits, but requires, consideration of common knowledge and common sense.”) Applicants respectfully assert that there is no reasonable, logical expectation of success for the underhood components of the pending claims, particularly given the chemical resistance of some of the components and the amounts of these components in the claimed articles.

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Reconsideration and withdrawal of the foregoing rejections are respectfully requested.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of the objection(s) and rejection(s) and allowance of the case are respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 50-1131.

Respectfully submitted,

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